

REMARKS

Applicants and their undersigned attorney have carefully reviewed the first Office Action of September 7, 2006 in the above-identified patent application, together with the prior art references cited and relied on by the Examiner in the rejections of the claims. Applicants believe that the present invention is not anticipated by, and is not obvious in light of, the prior art. Nevertheless, the claims of the application have been amended for clarification purposes. Reexamination and reconsideration of the application, and allowance of the claims is respectfully requested.

Applicant first notes the Examiner's comments regarding the use of the REFLECTOQUANT trademark throughout the specification. An electronic search through the specification indicates that every use of the subject trademark is capitalized in accordance with the comments in the Office Action.

The Examiner objected to claim 12 for containing a redundancy. Claim 12 lists a number of specific elements that may form a part of the invention. Claim 12 also lists a series of elements known as lanthanides. As two of the listed metals overlap with the series of elements encompassed by the lanthanide series, Applicant has amended claim 12 per the Examiner's suggestion. Applicant appreciates the Examiner's assistance in recognizing the apparent redundancy contained in claim 12.

It also appears that claims 21-23 were meant to depend from claim 20. Appropriate corrections have been made.

All of the pending claims are rejected under 35 U.S.C. 112, first paragraph. The Examiner's position is that the claims contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed

invention. Under 112, first paragraph, the Examiner also charges that the claims contain subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains to make and/or use the invention.

Relying upon the second paragraph of 112, the Examiner further charges that is unclear what a colorimetric sensitizer chemical is, that the terms “organometallic compound” and “organometallic complex” are unclear, that is unclear whether the “organometallic compound” is MMT or MMT bound to ferrocene, and that claims 14 and 17 are unclear. Applicant will address these rejections below. Applicant also attaches the declaration of Dr. Joe Roos in support of the patentability of the subject application.

Turning to the rejections under section 112, it is understood that the burden is on the Examiner to prove the lack of enablement (MPEP 2164.04). Where the Examiner is contending that a term is not well-known in the art or that a term could have more than one meaning, as the Examiner alleges here in sections 4, 5, 7, 8, 9, and 11 of the Office Action, “it is *necessary* that the examiner select the definition that he/she intends to use when examining the application, based on his/her understanding of what applicant intends it to mean, and *explicitly* set forth the meaning of the term and scope of the claim when writing an office action.” (2164.04) (emphasis added). This necessary step was not completed for the current office action.

Moreover, the Examiner’s 112 rejections are largely predicated on the allegation that Applicant did not reveal the colorimetric detection material or colorimetric sensitizer chemical. However, the specification states that a commercially available kit was operable with the invention so that at least one working example is provided. The specification also defines a colorimetric detection material and the fact that the colorimetric detection material may contain a substance that is able to colorimetrically

detect or facilitate detection of the presence of an organometallic complex or the metal thereof. Applicant submits, therefore, that the Examiner's explanation as to why the scope of protection is not adequately enabled by the disclosure is not reasonable (2164.04). Stated another way, it is unreasonable to allege the detection material and sensitizer chemical were not disclosed when the Applicant specifically points to an operable detection kit and defines the terms.

Applicant is also attaching Dr. Roos' declaration under 37 CFR 1.132. Applicant submits that the Roos declaration explains what is known and familiar to those of skill in the art. With this evidence of the level and extent of common knowledge, Applicant believes the rejections are no longer supported. "A declaration or affidavit is, itself, evidence that must be considered." (2164.05).

Applicant further disagrees that the specification would not convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The specification discloses that a suitable detection material and sensitizer chemical could be found in a kit sold under the brand name REFLECTOQUANT (see paragraph 16 of the published application). The kit, however, was not operable for use in liquid hydrocarbon matrices. The application also explains how the organometallic complex is formed and, therefore, the application teaches to one of ordinary skill in the art "what the organometallic complex is." Again, please see Dr. Roos' declaration.

Notwithstanding the above, in another 112 rejection, the Examiner states that the terms "organometallic compound" and "organometallic complex" are used interchangeably within the specification and that the use of the terms renders their meaning unclear in the application's claims. In support of this rejection, the Examiner

cites to page 8, lines 13-15. The relevant language reads "Thus, for example, the sandwich-like structure of ferrocene and MMT illustrate certain embodiments of the organo portion of the organometallic compound detectable herein." The Examiner reads this to mean that the organometallic compound is the detectable material.

The method of the present invention does detect an organometallic compound via the step of forming an organometallic complex on the detection material. Namely, in one embodiment, the detection material is contacted with or immersed into the hydrocarbon matrix. An organic film is adsorbed or absorbed on top of or within the inorganic detection material. Energy is applied to the detection material to decompose the organic metallic compound (such as ferrocene and MMT into inorganic iron or manganese, respectively). Thus, the application clearly teaches the decomposition of the organometallic compound, the reaction to form an organometallic complex, and the colorimetric detection of the compound via the formation of the complex. The terms are used consistently between the specification and claims.

In section 10 of the Office Action, the Examiner indicates that claim 14 is inconsistent as it refers to a detection material from step (b) of claim 1 but that there is no detection material mentioned in step (b). Applicant would point out that the detection material of claim 1 includes a colorimetric sensitizer chemical. When the reaction is initiated in step (b) to cause a reaction between the metal from the organometallic compound and the colorimetric sensitizer chemical sufficient to form an organometallic complex, it should be understood that the colorimetric detection material is still present from step (a). Applicant has nevertheless amended the claim to clarify the language.

Turning now to the rejections under 35 U.S.C 102, the Examiner rejects claims 1-16 and 18-23 as being anticipated by Zelaskowski (US Pat. No. 3,934,976). The

Examiner defines the claimed “colorimetric detection material” in the 1927 patent as tetraethylammonium chloride and “colorimetric sensitizer chemical” as iodide or a di-alkali metal salt of 4-(2-pyridylazo)-resorcinal. This conflicts with the language of the present claims where there is a “colorimetric detection material comprising a colorimetric sensitizer chemical.” Tetraethylammonium chloride does not comprise iodide or a di-alkali metal salt. As the reference does not teach each and every element of the claimed invention, it does not fully anticipate the subject invention. Yet, the Examiner also states that an organometallic complex is detected by a photometer at column 4, lines 13-35. Applicant cannot find where in the cited passage that it is taught that a reaction between the metal from an organometallic compound and the colorimetric sensitizer chemical is sufficient to form an organometallic complex. On the other hand, at column 4, lines 2-6, the 1976 patent teaches that inorganic lead compounds react with the PAR salt to produce a colorimetric change.

Finally, Applicant disagrees that Zelaskowski in view of European Patent Application No. 1251346 (“Dynasol”) renders claims 17 and 18 obvious under 35 U.S.C. 103(a). First, the Examiner does not consider and establish the four elements of Graham v. John Deere. Specifically, the Examiner does not resolve the level of ordinary skill in the pertinent art or consider object evidence present in the application indicating obviousness or nonobviousness. Here, the time difference between the ‘976 patent and the subject application suggests that the present invention would not be obvious. Moreover, the ‘976 patent requires the reduction of the metal in the gasoline to water soluble iodides. See Column 3, lines 11-15 (“It is believed that the tetraorganoammonium halide is *essential* for the conversion of all organolead compounds in the gasoline to water soluble iodides...”). The present invention detects a

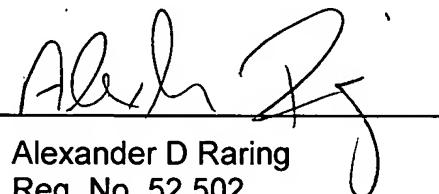
metallic species in a hydrocarbon matrix. Accordingly, the combination of Zelakowski and Dynasol cannot be used in any way to arrive at the claimed invention. The obviousness rejection is traversed.

For any one or more of the foregoing reasons, Applicant respectfully submits that the claims are in condition for allowance. Favorable action is requested hereon.

It is believed that there are no fees associated with this filing. However, in the event the calculations are incorrect, the Commissioner is hereby authorized to charge any deficiencies in fees or credit any overpayment associated with this communication to Deposit Account No. 05-1372.

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by: 
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